

(a) the following sequence of ORF-Q:

*Handwritten: C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100*

[Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-]Met-Glu-Asn-Arg-  
Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-  
Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-  
Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-  
Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-  
[Val]Tyr-Trp-Gly-Leu-His-Thr-Gly-Glu-[Pro]Arg-Asp-Trp-His-Leu-  
Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-  
Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-  
Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-  
Ser-Pro-Arg-Cys-[Phe]Glu-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-  
Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-  
Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-[Tyr-]Thr-Glu-Asp-Arg-  
Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-  
Asn-Gly-His;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

(b) the following sequence of ORF-R:

*WJH*  
*CI*  
*Conf*

Met-Gly-Gly-Lys-Trp-Ser-Lys-Ser-Ser-Val-Val-Gly-Trp-Pro-Thr-Val-  
Arg-Glu-Arg-Met-Arg-Arg-Ala-Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-  
Ala-Ser-Arg-Asp-Leu-[Phe]Glu-Lys-His-Gly-Ala-Ile-Thr-Ser-Ser-  
Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-Ala-Trp-Leu-[Phe]Glu-Ala-  
Gln-[Phe-Phe-Phe-Phe]Glu-Glu-Glu-Glu-Val-Gly-Phe-Pro-Val-Thr-  
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-  
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-  
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-  
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-  
Pro-Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-[Phe]Glu-  
Pro-Asp-Lys-Val-[Phe-Phe]Glu-Glu-Ala-Asn-Lys-Gly-[Phe]Glu-Asn-  
Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-  
Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-  
Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

[Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-  
Met-Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-  
Leu-Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-  
Asn-Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-  
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-  
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-  
Glu-Met-Glu-Pro-Val-Asp-Pro]

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

Met-Glu-Gln-Ala-Pro-Glu-Asp-Gln-Gly-Pro-Gln-Arg-Asp-Pro-His-Asn-  
Glu-Trp-Thr-Leu-Gln-Leu-Leu-Glu-Glu-Leu-Lys-Asn-Glu-Ala-Val-Arg-  
His-Phe-Pro-Arg-Ile-Trp-Leu-His-Gly-Leu-Gly-Gln-His-Ile-Tyr-Glu-  
Thr-Tyr-Gly-Asp-Thr-Trp-Ala-Gly-Val-Glu-Ala-Ile-Ile-Arg-Ile-Leu-  
Gln-Gln-Leu-Leu-Phe-Ile-His-Phe-Arg-Ile-Gly-Cys-Arg-His-Ser-Arg-  
Ile-Gly-Val-Thr-Gln-Gln-Arg-Arg-Ala-Arg-Asn-Gly-Ala-Ser-Arg-Ser;

(d) the following sequence of ORF-2:

[Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-]Met-Glu-Pro-Val-Asp-Pro-  
Arg-Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-  
Thr-Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-  
Thr-Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-  
Arg-Arg-Arg-Pro-Pro-Gln-Gly-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-  
Lys-Gln; and

[(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-  
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-  
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-  
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-  
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;]

[(f)] (e) the following sequence of ORF-4:

[Val-Val-His-Val-]Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-  
Val-Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-  
Glu-Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-  
Arg-Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-  
Ile-Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-  
Trp-Asp-Ile-Asp-Asp-Leu[;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N.W.  
WASHINGTON, DC 20005  
1-202-408-4000

(g) the following sequence of ORF-5:

His-Leu-Ser-Gly-Thr-Ile-Cys-Gly-Ala-Leu-Cys-Leu-Phe-Ser-Tyr-His-  
Arg-Leu-Arg-Asp-Leu-Leu-Leu-Ile-Val-Thr-Arg-Ile-Val-Glu-Leu-Leu-  
Gly-Arg-Arg-Gly-Trp-Glu-Ala-Leu-Lys-Tyr-Trp-Trp-Asn-Leu-Leu-Gln-  
Tyr-Trp-Ser-Gln-Glu-Leu-Lys-Asn-Ser-Ala-Val-Ser-Leu-Leu-Asn-Ala-  
Thr-Ala-Ile-Ala-Val-Ala-Glu-Gly-Thr-Asp-Arg-Val-Ile-Glu-Val-Val-  
Gln-Gly-Ala-Cys-Arg-Ala-Ile-Arg-His-Ile-Pro-Arg-Arg-Ile-Arg-Gln-  
Gly-Leu-Glu-Arg-Ile-Leu-Leu-Ochre-Asp; and

(h) the following sequence of LTR:

Gly-Gly-Ser-Glu-Gly-Leu-Ile-His-Ser-Gln-Arg-Arg-Gln-Asp-Ile-Leu-  
Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-Tyr-Phe-Pro-Asp-Trp-Gln-Asn-  
Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-Pro-Leu-Thr-Phe-Gly-Trp-Cys-  
Tyr-Lys-Leu-Val-Pro-Val-Glu-Pro-Asp-Lys-Val-Glu-Glu-Ala-Asn-Lys-  
Gly-Glu-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-  
Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-  
Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys-  
\*-His-Arg-Ala-Cys-Tyr-Lys-Gly-Leu-Ser-Ala-Gly-His-Phe-Pro-Gly-  
Arg-Arg-Gly-Leu-Gly-Gly-Thr-Gly-Glu-Trp-Arg-Ala-Leu-Arg-Trp-Trp-  
Ile-\*-Ala-Ala-Ala-Phe-Cys-Leu-Tyr-Trp-Ala-Ser-Leu-Val-Arg-Pro-  
Asp-Leu-Ser-Leu-Gly-Ala-Leu-Trp-Leu-Thr-Arg-Glu-Pro-Thr-Ala-\*-  
Ala-Ser-Ile-Lys-Leu-Ala-Leu-Ser-Ala-Ser-Ser-Ser-Val-Cys-Pro-Ser-  
Val-Val-\*-Leu-Trp-\*-Leu-Glu-Ile-Pro-Gln-Thr-Leu-Leu-Val-Ser-Val-  
Glu-Asn-Leu-\*-Gln-Trp-Arg-Pro-Asn-Arg-Asp-Leu-Lys-Ala-Lys-Gly-  
Lys-Pro-Glu-Glu-Leu-Ser-Arg].

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

13. (Amended) An isolated antibody which binds with an immunological complex, wherein the complex comprises an amino acid sequence of human immunodeficiency virus type 1 (HIV-1) and an antibody to said amino acid sequence, wherein said amino acid sequence is selected from the group consisting of:

(a) the following sequence of ORF-Q:

[Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-]Met-Glu-Asn-Arg-Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-[Val]Tyr-Trp-Gly-Leu-His-Thr-Gly-Glu-[Pro]Arg-Asp-Trp-His-Leu-Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-Ser-Pro-Arg-Cys-[Phe]Glu-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-[Tyr-]Thr-Glu-Asp-Arg-Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-Asn-Gly-His;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

(b) the following sequence of ORF-R:

*Wife*

Met-Gly-Gly-Lys-Trp-Ser-Lys-Ser-Ser-Val-Val-Gly-Trp-Pro-Thr-Val-  
Arg-Glu-Arg-Met-Arg-Arg-Ala-Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-  
Ala-Ser-Arg-Asp-Leu-[Phe]Glu-Lys-His-Gly-Ala-Ile-Thr-Ser-Ser-  
Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-Ala-Trp-Leu-[Phe]Glu-Ala-  
Gln-[Phe-Phe-Phe-Phe]Glu-Glu-Glu-Glu-Val-Gly-Phe-Pro-Val-Thr-  
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-  
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-  
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-  
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-  
Pro-Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-[Phe]Glu-  
Pro-Asp-Lys-Val-[Phe-Phe]Glu-Glu-Ala-Asn-Lys-Gly-[Phe]Glu-Asn-  
Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-  
Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-  
Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

[Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-  
Met-Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-  
Leu-Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-  
Asn-Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-  
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-  
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-  
Glu-Met-Glu-Pro-Val-Asp-Pro]

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

Met-Glu-Gln-Ala-Pro-Glu-Asp-Gln-Gly-Pro-Gln-Arg-Asp-Pro-His-Asn-  
Glu-Trp-Thr-Leu-Gln-Leu-Leu-Glu-Glu-Leu-Lys-Asn-Glu-Ala-Val-Arg-  
His-Phe-Pro-Arg-Ile-Trp-Leu-His-Gly-Leu-Gly-Gln-His-Ile-Tyr-Glu-  
Thr-Tyr-Gly-Asp-Thr-Trp-Ala-Gly-Val-Glu-Ala-Ile-Ile-Arg-Ile-Leu-  
Gln-Gln-Leu-Leu-Phe-Ile-His-Phe-Arg-Ile-Gly-Cys-Arg-His-Ser-Arg-  
Ile-Gly-Val-Thr-Gln-Gln-Arg-Arg-Ala-Arg-Asn-Gly-Ala-Ser-Arg-Ser;

(d) the following sequence of ORF-2:

[Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-]Met-Glu-Pro-Val-Asp-Pro-  
Arg-Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-  
Thr-Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-  
Thr-Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-  
Arg-Arg-Arg-Pro-Pro-Gln-Gly-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-  
Lys-Gln; and

[(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-  
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-  
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-  
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-  
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;]

[(f)] (e) the following sequence of ORF-4:

[Val-Val-His-Val-]Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-  
Val-Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-  
Glu-Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-  
Arg-Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-  
Ile-Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-  
Trp-Asp-Ile-Asp-Asp-Leu[;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

(g) the following sequence of ORF-5:

His-Leu-Ser-Gly-Thr-Ile-Cys-Gly-Ala-Leu-Cys-Leu-Phe-Ser-Tyr-His-  
Arg-Leu-Arg-Asp-Leu-Leu-Leu-Ile-Val-Thr-Arg-Ile-Val-Glu-Leu-Leu-  
Gly-Arg-Arg-Gly-Trp-Glu-Ala-Leu-Lys-Tyr-Trp-Trp-Asn-Leu-Leu-Gln-  
Tyr-Trp-Ser-Gln-Glu-Leu-Lys-Asn-Ser-Ala-Val-Ser-Leu-Leu-Asn-Ala-  
Thr-Ala-Ile-Ala-Val-Ala-Glu-Gly-Thr-Asp-Arg-Val-Ile-Glu-Val-Val-  
Gln-Gly-Ala-Cys-Arg-Ala-Ile-Arg-His-Ile-Pro-Arg-Arg-Ile-Arg-Gln-  
Gly-Leu-Glu-Arg-Ile-Leu-Leu-Ochre-Asp; and

(h) the following sequence of LTR:

Gly-Gly-Ser-Glu-Gly-Leu-Ile-His-Ser-Gln-Arg-Arg-Gln-Asp-Ile-Leu-  
Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-Tyr-Phe-Pro-Asp-Trp-Gln-Asn-  
Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-Pro-Leu-Thr-Phe-Gly-Trp-Cys-  
Tyr-Lys-Leu-Val-Pro-Val-Glu-Pro-Asp-Lys-Val-Glu-Glu-Ala-Asn-Lys-  
Gly-Glu-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-  
Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-  
Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys-  
\*-His-Arg-Ala-Cys-Tyr-Lys-Gly-Leu-Ser-Ala-Gly-His-Phe-Pro-Gly-  
Arg-Arg-Gly-Leu-Gly-Gly-Thr-Gly-Glu-Trp-Arg-Ala-Leu-Arg-Trp-Trp-  
Ile-\*-Ala-Ala-Ala-Phe-Cys-Leu-Tyr-Trp-Ala-Ser-Leu-Val-Arg-Pro-  
Asp-Leu-Ser-Leu-Gly-Ala-Leu-Trp-Leu-Thr-Arg-Glu-Pro-Thr-Ala-\*-  
Ala-Ser-Ile-Lys-Leu-Ala-Leu-Ser-Ala-Ser-Ser-Ser-Val-Cys-Pro-Ser-  
Val-Val-\*-Leu-Trp-\*-Leu-Glu-Ile-Pro-Gln-Thr-Leu-Leu-Val-Ser-Val-  
Glu-Asn-Leu-\*-Gln-Trp-Arg-Pro-Asn-Arg-Asp-Leu-Lys-Ala-Lys-Gly-  
Lys-Pro-Glu-Glu-Leu-Ser-Arg].

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000



15. (Amended) An isolated immunological complex comprising an amino acid sequence of human immunodeficiency virus type 1 (HIV-1) and an antibody against said amino acid sequence, which antibody binds with said amino acid sequence, wherein said amino acid sequence is selected from the group consisting of:

(a) the following sequence of ORF-Q:

[Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-]Met-Glu-Asn-Arg-Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-[Val]Tyr-Trp-Gly-Leu-His-Thr-Gly-Glu-[Pro]Arg-Asp-Trp-His-Leu-Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-Ser-Pro-Arg-Cys-[Phe]Glu-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-[Tyr-]Thr-Glu-Asp-Arg-Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-Asn-Gly-His;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

(b) the following sequence of ORF-R:

Met-Gly-Gly-Lys-Trp-Ser-Lys-Ser-Ser-Val-Val-Gly-Trp-Pro-Thr-Val-  
Arg-Glu-Arg-Met-Arg-Arg-Ala-Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-  
Ala-Ser-Arg-Asp-Leu-[Phe]Glu-Lys-His-Gly-Ala-Ile-Thr-Ser-Ser-  
Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-Ala-Trp-Leu-[Phe]Glu-Ala-  
Gln-[Phe-Phe-Phe-Phe]Glu-Glu-Glu-Glu-Val-Gly-Phe-Pro-Val-Thr-  
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-  
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-  
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-  
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-  
Pro-Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-[Phe]Glu-  
Pro-Asp-Lys-Val-[Phe-Phe]Glu-Glu-Ala-Asn-Lys-Gly-[Phe]Glu-Asn-  
Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-  
Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-  
Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

[Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-  
Met-Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-  
Leu-Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-  
Asn-Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-  
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-  
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-  
Glu-Met-Glu-Pro-Val-Asp-Pro]

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000

*Handwritten: 12/10/81*

Met-Glu-Gln-Ala-Pro-Glu-Asp-Gln-Gly-Pro-Gln-Arg-Asp-Pro-His-Asn-  
Glu-Trp-Thr-Leu-Gln-Leu-Leu-Glu-Glu-Leu-Lys-Asn-Glu-Ala-Val-Arg-  
His-Phe-Pro-Arg-Ile-Trp-Leu-His-Gly-Leu-Gly-Gln-His-Ile-Tyr-Glu-  
Thr-Tyr-Gly-Asp-Thr-Trp-Ala-Gly-Val-Glu-Ala-Ile-Ile-Arg-Ile-Leu-  
Gln-Gln-Leu-Leu-Phe-Ile-His-Phe-Arg-Ile-Gly-Cys-Arg-His-Ser-Arg-  
Ile-Gly-Val-Thr-Gln-Gln-Arg-Arg-Ala-Arg-Asn-Gly-Ala-Ser-Arg-Ser;

(d) the following sequence of ORF-2:

*Handwritten: CS CENK*

[Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-]Met-Glu-Pro-Val-Asp-Pro-  
Arg-Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-  
Thr-Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-  
Thr-Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-  
Arg-Arg-Arg-Pro-Pro-Gln-Gly-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-  
Lys-Gln; and

[(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-  
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-  
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-  
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-  
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;]

[(f)] (e) the following sequence of ORF-4:

[Val-Val-His-Val-]Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-  
Val-Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-  
Glu-Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-  
Arg-Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-  
Ile-Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-  
Trp-Asp-Ile-Asp-Asp-Leu[;

LAW OFFICES

FINNEGAN, HENDERSON  
FARABOW, GARRETT  
& DUNNER

1300 I STREET, N. W.  
WASHINGTON, DC 20005  
1-202-408-4000